

## SECTION 15560

### UNIT HEATERS

#### 1.0 GENERAL

##### 1.1 DESCRIPTION

1. The General Provisions and other mechanical systems are specified in other Sections of Division 15.
2. This Section covers unit heaters and accessories. Testing, adjusting, and balancing is specified in Section 15900, HVAC Testing, Adjusting & Balancing.

##### 1.2 QUALITY ASSURANCE

1. Unit heater design and performance shall be certified by the American Gas Association or the Canadian Gas Association.

##### 1.3 GUARANTEES

1. A written guarantee shall be furnished in exact conformity with the requirements of the General Conditions. Guarantee shall include prompt correction of all deficiencies.

##### 1.4 OPERATING INSTRUCTIONS

1. Instruct the Owner's Representative in operation of the installed unit heater. The basis of these instructions shall be those written for inclusion in the maintenance and operating instruction data specified in the General Conditions. Obtain certificates, signed by the Owner's Representative, that these instructions have been received.
2. Notify the Owner at least five days before commencing operating period as specified herein, in order that the Owner's Representative may be present during that period.

##### 1.5 MAINTENANCE DATA

1. Equipment Manufacturers' operating and maintenance manuals, including parts lists for each piece of equipment and accessory requiring service or maintenance, the guarantee period, and the name, address and phone number of the nearest sales and service organization for each item.
2. Copies of inspection certificates provided by the city, county, state and insurance companies.
3. Approved start and completion dates of the guarantee period.

##### 1.6 SUBMITTALS

1. Refer to the GENERAL CONDITIONS and SUPPLEMENTS thereto for submittal procedure of items called for in the Contract Documents.

##### 1.7 COORDINATION OF RELATED WORK

1. The following work is generally specified in other Divisions work of the Specifications, except as specifically otherwise stated in this section.
2. Electric power, interlock, and control wiring, Division 16.
3. Installation of starters, contactors, thermal overload switches, and remote push buttons.

## 2.0 PRODUCTS

### 2.1 GENERAL

1. Provide propeller-type natural gas unit heaters, complete with burner, hanging brackets, propeller fan and controls mounted and wired. Performance shall be as indicated on the equipment schedule on the plans. Unit heaters shall be A.G.A. certified.
2. Acceptable Manufacturers: Modine, Reznor, Sterling, or Trane.

### 2.2 CASING

1. Casing shall be formed of minimum 20 gauge die formed aluminized steel, cleaned and finished with an enamel or powdered paint baked-on for maximum corrosion resistance.
2. The unit heater casing shall include a hinged bottom panel for easy access to the burner compartment.

### 2.3 BURNER

1. Burner shall be die formed aluminized steel with slotted, non-clogging ports or stainless steel port protectors. Burner shall be removable for inspection and service.

### 2.4 HEAT EXCHANGER

1. Heat exchanger shall be constructed of 20 gauge aluminized steel. The heat exchanger shall be of welded construction with contoured aluminized steel tubes.

### 2.5 MOTOR AND PROPELLER FAN

1. Each unit heater shall have a single motor and propeller. Motor shall be 1/4 H.P., 120Volt, 1 phase, 60Hz., totally enclosed with thermal overload protection. Propeller shall be statically balanced and shall be equipped with a fingerproof safety fan guard.

### 2.6 CONTROLS

1. Unit heaters shall be provided with single stage, intermittent pilot ignition, 100 percent shut off with continuous retry. Unit heater shall include a 24 volt control transformer, safety high limit control (overheat control), blocked vent safety switch, gas pressure regulator, manual shut off valve and terminal board for low voltage wiring.
2. Controls shall be designed for operation with natural gas with a specific gravity of 0.6 and 1,000 BTU per cubic foot heating value for operation at less than 2,000 feet elevation.

### 2.7 ACCESSORIES

1. Furnish unit heaters with horizontal adjustable louvers. Louvers shall be constructed and finished in the same manner as the unit heater casing. Louvers shall be flanged for attachment to the air discharge opening of the unit heater.
2. Provide unit heater with a single stage, 24 volt, wall mounted thermostat with a temperature range of 35°F to 65°F temperature range.

### 2.8 VENTING

1. Provide a Type B double-wall gas vent consisting of an aluminum alloy inner liner and a galvanized steel outer jacket. The vent shall include an integral, annular insulating air space, 1/4" thick minimum. Provide all fittings from same manufacturer as required to provide a complete venting system. Fittings shall include flashing, storm collar, cap, and appliance adapter. The vent system shall be UL listed.

### 3.0 EXECUTION

1. Install blower-type unit heaters in accordance with manufacturer's instructions and as indicated on the drawings. Units shall be supported from the structural steel as indicated on the drawings and as recommended by the manufacturer.
2. Maintain proper clearances to combustibles and mounting height in accordance with local code requirements.
3. Vent system shall be installed in accordance with the manufacturer's written instructions.

END OF SECTION